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SHORT COMMUNICATION

First record of *Ligia oceanica* (Linnaeus, 1767) (Isopoda: Ligiidae) in the Canary Islands

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INTRODUCTION

The order Isopoda includes about 10,000 marine, freshwater and terrestrial species (Brusca & Brusca 2005). Approximately half of these are terrestrial and belong to the suborder Oniscidea. *Ligia oceanica* (Linnaeus, 1767), commonly known as "sea-slater", is the largest species in this suborder. Its distribution includes Iceland (Ingolfsson 1996), Norway (Kronberg 1988), Sweden (Granovitch & Mikhailova 2004), British Isles (Hewitt 1907; Newell 1986), France (Cloudsley-Thompson 1958), Spain (Castelló & Junoy 2007), Portugal (Nobre 1938), Morocco (Nicholls 1931; Cloudsley-Thompson 1958), NE United States (Dexter 1959) and the Azores (Morton et al. 1998). However, this sea-slater had not been documented in the Canary Islands until now (Castelló & Junoy 2007), despite being easily visible (a body size > 30 mm), inhabiting accessible areas (i.e. supralittoral and upper intertidal area) and found along the adjacent Moroccan coast.

This study presents the first record of *L. oceanica* in the Canary Islands. Additionally, body features between *L. oceanica* and *Ligia italica* Fabricius, 1798, the other sea-slater inhabiting the Archipelago, were compared.

MATERIAL AND METHODS

L. oceanica (Fig. 1) was only recorded in the marina area at Las Palmas de Gran Canaria (28° 07' 36.22" N – 15° 25' 30.95" W), although its presence was checked in other similar places, such as the harbour at Santa Cruz de Tenerife (28° 28' 38.42'' N – 16° 14' 29.71'' W). This isopod was also not found in several analysed rocky shores in Gran Canaria (e.g. Taliarte or Arinaga).

Sampling was carried out at low tide and specimens obtained from crevices and holes in the marina walls. They were measured using Vernier calipers, from the anterior part to the last segment of the abdominal region, excluding uropods. Some specimens of *L. italica*, collected in La Isleta (28° 09' 56.33'' N – 15° 26' 28.01'' W, Gran Canaria), were similarly measured for comparison with *L. oceanica* specimens. Samples were identified by Dr. Juan Junoy (University of Alcalá, Spain).

RESULTS

Both species of *Ligia* showed an oval-shaped body, big eyes and large antennas reaching two thirds of the body length (Fig. 1). Their abdominal

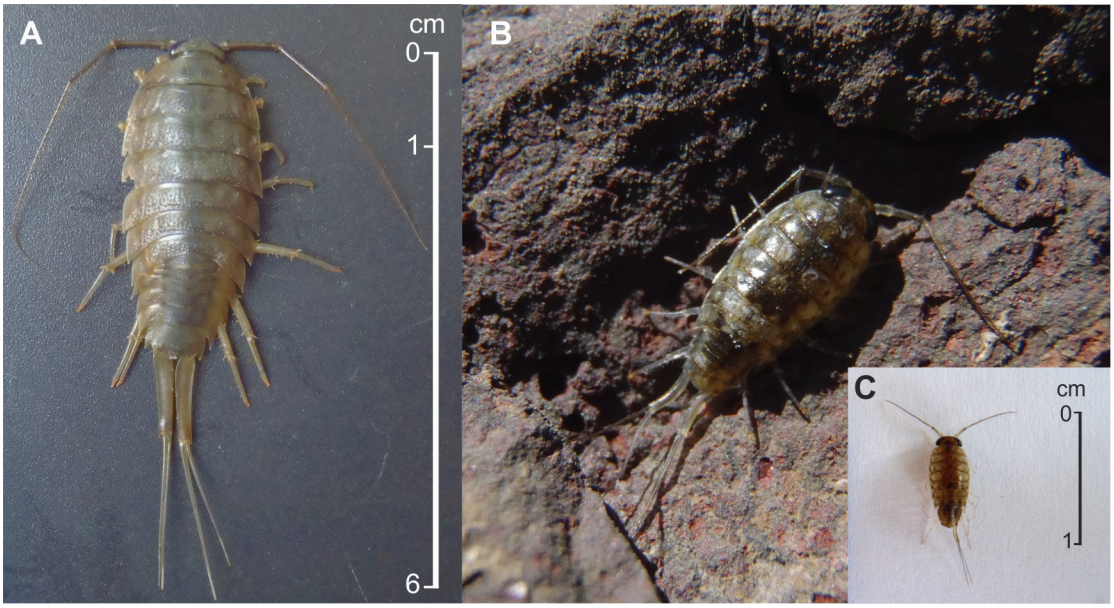

Fig. 1. Dorsal view of the isopod *Ligia oceanica* (A) and *Ligia italica* (B). In C, an individual of *L. italica* is shown with a reference scale.

segments were clearly demarcated and uropods were large; each with two long rami that were either symmetric or the internal ramus longer than the external one. They exhibited various shades and intensities of brown, grey, olive green which changed after being captured. On the other hand, *L. oceanica* showed, in appearance, a more robust body than that of *L. italica* besides a significant difference in size (Mann-Whitney U test, $p < 0.01$). Sizes ranged from 20-35mm in *L. oceanica* ($n = 5$) to 7-10 mm in *L. italica* ($n = 6$).

DISCUSSION

The discovery of *L. oceanica* along the Canary shores extends its southern distribution range in the Atlantic Ocean. Its restricted presence to one marina suggests the species recent arrival in the Canaries. Possibly, the vector of its introduction has been through ballast water discharges, as suggested for the Azores (Morton & Britton 2000, Cardigos et al. 2006). Another possibility could be transportation within one of the numerous recreational ships arriving in the Canaries from all over Europe. The recorded specimens here have already reached a similar size range to that observed by Dexter (1959) on the west coast of the Atlantic (from newly hatched to 32 mm), and Hewitt (1907; 32-34 mm) or Nicholls (1931; 20-31 mm) in the British Isles.

Body size was the main difference between both species of *Ligia*. Their behaviour was also dissimilar despite sharing the same habitat. *L. italica* tolerates immersion periods and its movements are closely related to tidal height (Davenport 1994), whereas *L. oceanica* avoids immersion periods and is more active at night (Nicholls 1931). When *L. oceanica* was captured, during the day at low tide, it also exhibited moderate activity.

On the other hand, competition for space and food could occur between both *Ligia* species if rocky shores are colonised by *L. oceanica.* This occurrence could potentially modify food webs since such isopod can become a new food-resource for birds and crabs, which are their main predators (e.g. Nicholls 1931). Therefore, long-term ecological studies are necessary to assess future changes in spreading of *L. oceanica*.

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